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Before The
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

MAR 21 1997

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

In the Matter of

Amendment of the Commission's Rules
to Establish Part 27, the Wireless
Communications Service

GN Docket No. 96-228

**STATEMENT IN SUPPORT OF
PETITION FOR EXPEDITED RECONSIDERATION**

Mississippi EdNet Institute, Inc. ("EdNet"), through its attorneys, files herewith this Statement in Support of a Petition for Expedited Reconsideration in the above-referenced proceeding, filed on March 10, 1997 by The Wireless Cable Association International, Inc. ("WCA"). In support thereof, the following is respectfully shown:

1. EdNet is a public/private ITFS consortium in the State of Mississippi. Its members include the following entities, each of which has been authorized a total of eleven ITFS authorization by the Commission at eleven common cells located throughout the State:

Mississippi Authority for Educational Television, A-Group

State Board of Education, C-Group

Board of Trustees of the Institutions of Higher Learning, G-Group

Mississippi EdNet Institute, Inc., D-Group

State Board for Community and Junior Colleges, B-Group

EdNet has an outstanding excess capacity lease agreement with TruVision Wireless, Inc. (TruVision), which is designed to provide a comprehensive statewide ITFS/MDS system to serve both instructional and wireless cable needs throughout the State. A

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substantial number of the authorized cells have already been activated, and full implementation of the statewide plan is contemplated by 1998.

2. TruVision shares substantial revenues with EdNet, allowing it to operate, produce and distribute a wide range of valuable instructional services. Last year, EdNet received more than \$156,000 and it expects that figure to increase this year. The public/private partnership formed by EdNet and TruVision has been highly beneficial to the EdNet partners and to the schools and school children of Mississippi.

3. EdNet is deeply concerned regarding the very real threat of interference that may occur as the result of the Commission's announced plans to auction radio spectrum, effective April 15, 1997 in the 2.3 GHz band for the Wireless Communications Service ("WCS"). Implementation of such an auction, without protection for ITFS programmers, will create interference problems and negatively impact the delivery of EdNet programs to Mississippi schools and citizens. It is EdNet's understanding that the Commission has a long-standing policy of protecting existing operations from interference that may be caused by new services. In EdNet's judgment, that Commission policy should be fully applicable here.

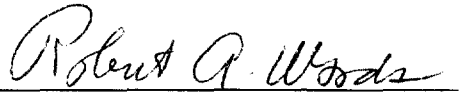
4. Attached is an Engineering Statement prepared by EdNet's engineering consultant, which is designed to report the results of studies made to determine the effects of the Commission's action herein concerning ITFS and MDS facilities, in light of the fact that the Commission created WCS without imposing any power limitation on WCS licensees. The attached Statement defines in detail the adverse effects that the unlimited WCS stations will have on EdNet's statewide ITFS educational network and the loss of revenues currently derived from leasing their ITFS excess capacity to

TruVision. Based upon the results of these interference studies and those of WCA, as outlined in the Petition, the Commission should impose a 20 watts EIRP limitation on WCS licensees in order to lessen the interference potentiality to MDS and ITFS receive sites.

WHEREFORE, for all of the foregoing reasons and for the reasons set forth in detail in the WCA Petition, EdNet urges the Commission to grant expeditiously the relief sought by WCA.

Respectfully submitted,

MISSISSIPPI AUTHORITY FOR
EDUCATIONAL TELEVISION

By: 
Robert A. Woods

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Its Attorneys

EXHIBIT E

**ENGINEERING STATEMENT OF
ROBERT GEHMAN, JR.
IN SUPPORT OF A
PETITION FOR EXPEDITED RECONSIDERATION
IN CONNECTION WITH
REPORT AND ORDER, GN Docket No. 96-228
Released February 19, 1997**

Mississippi EdNet Institute, Inc.

SUMMARY

The purpose of this engineering statement is to report the results of studies made to determine the effects of the Commission's action in the above referenced proceeding as it concerns MDS and ITFS facilities. In particular, the Commission created the Wireless Communications Service ("WCS") without imposing any power limitation on WCS licensees. WCS stations will operate in the frequency bands 2305-2320 MHz and 2345-2360 MHz and, without any power limitations, have a potential to cause harmful blanketing interference to educational receive sites of ITFS licensees and to the subscribers of wireless cable service using MDS and leased ITFS stations. Mississippi EdNet Institute, Inc. ("EdNet") is comprised of five Mississippi state educational entities which are the licensees of 55 four-channel ITFS stations transmitting from eleven sites located throughout the state of Mississippi. EdNet also leases excess capacity to a wireless cable operator. EdNet is concerned that without any power limitations WCS stations will cause interference to its ITFS receive sites and to the subscribers of its wireless cable lessee. Based upon the results of my interference studies and those of the WCA¹, the Commission should impose a power limitation of 20 watts EIRP on WCS licensees to minimize the potential of destructive blanketing interference to MDS and ITFS receive sites.

BACKGROUND

The downconverters used by ITFS and MDS stations were designed to be broadband to receive all 31 channels (or 33 channels for dual-band units) in the MDS and ITFS services. The

¹ *Petition for Expedited Reconsideration, Wireless Cable Association International, Inc. (March 10, 1997).* The WCA demonstrated that with a power limit of 20 watts EIRP the blanketing interference from a WCS station would be restricted to an area within about 300 feet of an MDS/ITFS receive site.

downconverters were also designed to provide a noise-free picture with an input signal as low as -58 dBm. High level input signals will drive the downconverters into "overload" producing unpredictable results that will cause interference to the reception of the desired stations. Three major MDS/ITFS downconverter manufacturers have reported that an input signal level of -6 dBm is the maximum to avoid overload (1 dB compression of the input stage) of these downconverters, and that good engineering practice requires that the input power be limited to 6 to 10 dB below the overload point. Using this information I have computed the area around a WCS base station within which interference would be created using various EIRPs for the WCS interfering station, a wireless cable receiving antenna with a gain (G_r) of 24 dBi, and an overload threshold of -12 dBm. The following formula can be used to compute the distance (D) to the overload interference contour:

$$D_{\text{Mile}} = 10 \exp[(EIRP_{\text{dBm}} + 12_{\text{dBm}} - 36.6 - 20 \log 2305_{\text{MHz}} + G_r_{\text{dBi}})/20]$$

EFFECTS ON EDNET

EdNet is primarily concerned with the adverse effects that the unlimited WCS stations will have on their statewide ITFS educational network and the loss of revenues currently derived from leasing their ITFS excess capacity to a wireless cable operator. In the main lobe of the ITFS/MDS receiving antenna the distance to the overload interference contour from the transmitter site of an omnidirectional WCS station, operating with an EIRP of 1,280 watts (61 dBm), is:

$$D_{\text{Mile}} = 10 \exp[(61_{\text{dBm}} + 12_{\text{dBm}} - 36.6 - 20 \log 2305_{\text{MHz}} + 24_{\text{dBi}})/20]$$

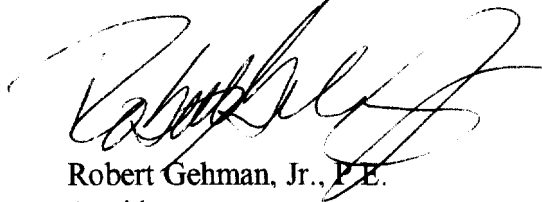
$$D_{\text{Mile}} = 0.46$$

The omnidirectional EIRP of 1,280 watts assumed in the above calculations is reasonable because it can readily be achieved by a WCS station using equipment similar to that used by the MDS and ITFS services. The interference area generally has the shape of the receiving antenna pattern and extends to nearly 0.5 mile in the maximum direction, as shown above in the example using a 24 dBi receiving antenna. This interference area may contain 200 or more households in heavily built-up areas such as Jackson, Mississippi. Twice as much EIRP (2,560 watts) can be achieved by substituting a cardioid-shaped directional transmitting antenna which could enlarge the interference area such that it may encompass 400 or more households. Indeed, the unfavorable siting of an unrestricted WCS station using a highly directional transmitting antenna may result in a count that is substantially greater than 400 households. The WCS power limitation of 20 watts EIRP requested by the WCA would restrict the blanketing interference to an area of a more reasonable size; within about 300 feet of an MDS or ITFS receive site.

This engineering statement was prepared by Robert Gehman, Jr., who states under penalty of perjury that he is a professional engineer registered in the states of Florida, Maryland, and Mississippi; he is president of Kessler and Gehman Associates, Inc., telecommunications

consulting engineers; his qualifications are a matter of record with the Federal Communications Commission having been presented on numerous occasions during the past 25 years; and the information contained in this statement is true to the best of his knowledge and belief.

KESSLER AND GEHMAN ASSOCIATES, INC.

A handwritten signature in black ink, appearing to read 'Robert Gehman, Jr.', written over a horizontal line.

Robert Gehman, Jr., P.E.
President

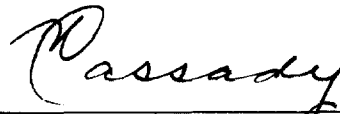
March 14, 1997

CERTIFICATE OF SERVICE

I, Nancy M. Cassady, Secretary in the law offices of Schwartz, Woods & Miller, hereby certify that I have on this 21st day of March, 1997, caused to be hand-delivered copies of the foregoing **STATEMENT IN SUPPORT OF PETITION FOR EXPEDITED RECONSIDERATION** to the following:

Paul Sinderbrand, Esquire
Wilkinson Barker Knauer & Quinn
1735 New York Avenue, NW, #600
Washington, DC 20006-5289

Andrew Kreig, Esquire, Acting President
The Wireless Cable Assn. International, Inc.
1140 Connecticut Avenue, N.W.,
Suite 810
Washington, D.C. 20036

A handwritten signature in cursive script, appearing to read "Nancy M. Cassady", written over a horizontal line.

Nancy M. Cassady